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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,129	01/02/2002	Cory R. Carpenter	BEA920010029US1	8791

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EXAMINER	
HUYNH, CONG LAC T	
ART UNIT	PAPER NUMBER
2178	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/040,129	CARPENTER, CORY R.	
	Examiner	Art Unit	
	Cong-Lac Huynh	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: amendment filed 12/7/05 to the application filed on 1/02/02.

2. Claims 1-21 are pending in the case. Claims 1, 9, 15, 19 are independent claims.

3. The rejections of claims 1-21 under 35 U.S.C. 103(a) as being unpatentable over Jang in view of Davis have been withdrawn in view of the amendment.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Independent claims 1, 9, 15, 19, it is not clear why *adding a relevant attribute* of an encountered element indicating the depth in the data structure *to an HTML document*. The HTML document does not relate to the generated identifier in an electronic document. Since said adding to an HTML document is unclear, further encoding said attribute as a URL, and inserting said URL in said HTML document are also unclear why encoding and inserting need to be performed.

Dependent claims 2-8, 10-14, 16-18, 20-21 are rejected for fully incorporating the deficiencies of their base claims 1, 9, 15 and 19.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jang et al., *An Effective Mechanism for Index Update in Structured Documents*, ACM 1999, pages 383-390 in view of Shin et al., *BUS: An Effective Indexing and Retrieval Scheme in Structured Documents*, ACM 1998, pages 235-243 and Parupudi et al. (US Pat App Pub No 2005/0080902, 4/14/05, priority 12/22/00).

Regarding independent claim 1, Jang discloses:

- following hierarchy of said data structure to reach a root of said data structure (**page 384, section 2.1 Unique element identifier (UID)**: traversing the structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object; this inherently shows reaching the root of the structured document, which is the hierarchy, is performed before the traversal)

- traversing the data structure from said root until a target object is encountered (**page 384, section 2.1 Unique element identifier (UID)**: traversing the structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object)
- dynamically generating said identifier from a location of said target in said data structure (**page 384, section 2.1 Unique element identifier (UID) and 2.2 Indexing and retrieval with UID:** assigning each encountered element in the structured document a UID according to the order of the level-order tree traversal and during the scanning through the document)

Jang does not disclose that said generating said identifier includes adding a relevant attribute of an encountered element in said data structure to an HTML document indicating a depth of said element in said data structure, including encoding said attribute as a URL, and inserting said URL in said HTML document.

Shin discloses adding a relevant attribute of an encountered element in said data structure to an HTML document indicating a depth of said element in said data structure (pages 237-238). Shin does not disclose encoding said attribute as a URL, and inserting said URL in the HTML document.

Parupudi discloses encoding said attribute in the node identifier as a URL, and inserting said URL in the HTML document ([0083], [0111]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Parupudi into Jang and Shin since the node identifier

encoded as a URL included in a structured document in Parupudi would provide the advantage to incorporate into the node identifier showing the depth of the element in structured documents Shin and Jang for effectively conducting the search and quickly retrieving information in the web documents over the Internet.

Regarding claim 2, which is dependent on claim 1, Jang discloses incrementing a counter when a specified branch of the data structure is encountered (page 385, figure 2: counter c1 increments to c2 when a specified branch of the structure is encountered).

Regarding claim 3, which is dependent on claim 1, Jang discloses that traversing the data structure includes clearing a counter when a specified branch of the data structure is closed (page 385, figure 2: clearing a counter when the branch (c1, s1, p1-p3) is closed).

Regarding claim 4, which is dependent on claim 1, Jang discloses traversing the data structure includes recursively traversing the data structure (**page 385, last paragraph to page 386, 2nd paragraph**: assigning the UIDs to the elements of the structure document *during the traversal* where the UIDs reflect the *parent-child relationships* among the elements inherently shows recursively traversing. The reason is that it was known that each node above a target node is recursively determined and included in the document in walking up the tree. And also, it was known that each node below a target node is recursively determined and included in the document in walking down the tree).

Regarding claim 5, which is dependent on claim 1, Jang discloses updating said reference identifier to reflect changes in said data structure (page 386, 4.2 Changes in element structures, figure 6, page 387, 4.3 Update of postings: the UID is changed when the structured document is changed by insertion and deletion).

Regarding claim 6, which is dependent on claim 5, Jang discloses that updating said reference identifier includes resetting an index for said data structure when content of said data structure is amended (page 386, 4. Update of indices, 4.1 Change in element content: update the indices and UIDs when the content of the structured document is changed by insertion or deletion).

Regarding claim 7, which is dependent on claim 6, Jang discloses that the amended content includes content selected from the group consisting of: inserted content, removed content, and reorganized content (page 384, 2nd paragraph, page 386, 4. Update of Indices, 4.1 Change in element content, and 4.2 Changes in element structures).

Regarding claim 8, which is dependent on claim 1, Jang discloses that said data structure is a standardized mark-up language (page 385, figure 4: SGML/XML documents, page 390, 7. Conclusion and future works).

Claims 9-14 are for a system of method claims 1-3, 5-8, and are rejected under the same rationale.

Claims 15-18 are for an article of method claims 1-3, and are rejected under the same rationale.

Regarding independent claim 19, Jang discloses:

- following hierarchy of said data structure to reach a root of said data structure (**page 384, section 2.1 Unique element identifier (UID)**: traversing the structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object; this inherently shows reaching the root of the structured document, which is the hierarchy, is performed before the traversal)
- traversing the data structure from said root until a target object is encountered (**page 384, section 2.1 Unique element identifier (UID)**: traversing the structured document according to the order of the level-order tree implies traversing from the root to an element of the structured document where said element is considered equivalent to a target object)
- wherein the step of traversing the data structure includes changing a counter when a branch of said data structure in encountered (page 385, figure 2)

- generating said identifier from a location of said target in said data structure (**page 384, section 2.1 Unique element identifier (UID):** assigning each encountered element in the structured document a UID)

Jang does not disclose that said generating said identifier includes adding a relevant attribute of an encountered element in said data structure to an HTML document indicating a depth of said element in said data structure, including encoding said attribute as a URL, and inserting said URL in said HTML document.

Shin discloses adding a relevant attribute of an encountered element in said data structure to an HTML document indicating a depth of said element in said data structure (pages 237-238). Shin does not disclose encoding said attribute as a URL, and inserting said URL in the HTML document.

Parupudi discloses encoding said attribute in the node identifier as a URL, and inserting said URL in the HTML document ([0083], [0111]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Parupudi into Jang and Shin since the node identifier encoded as a URL included in a structured document in Parupudi would provide the advantage to incorporate into the node identifier showing the depth of the element in structured documents Shin and Jang for effectively conducting the search and quickly retrieving information in the web documents over the Internet.

Regarding claim 20, which is dependent on claim 19, Jang discloses clearing said counter when a specified branch of said data structure is closed and a target object is

null, and incrementing said counter when a specified branch of said data structure is encountered (page 385, figure 2: when branch c1 with nodes c1, s1, s2, p1-p3 is closed and the target node is null, the counter p(n) is cleared, and c1 is incremented to c2 when the branch starting with node c2 is encountered).

Regarding claim 21, which is dependent on claim 19, Jang discloses updating said reference identifier to reflect changes in said data structure (page 386, 4.2 Changes in element structures; page 387, 4.3 Update of postings).

Response to Arguments

8. Applicant's arguments, filed 12/7/05, with respect to the rejection(s) of claim(s) 1-21 under Jang have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Shin and Parupudi. See the rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chui et al. (US Pat No. 6,009,434).

Lee et al. (US Pat No. 6,484,849).

O'Neil et al. (US Pat App Pub No. 2003/0110150 A1).

Ramer et al. (US Pat App Pub No. 2002/0174201 A1).

Porter et al. (US Pat App Pub No. 2002/0059272 A1).

Holbrook et al. (US Pat App Pub No. 2002/0152222 A1).

Wiener et al. (US Pat App Pub No. 2005/0033745 A1).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cong-Lac Huynh whose telephone number is 571-272-4125. The examiner can normally be reached on Mon-Fri (8:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-4125.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cong-Lac Huynh
Primary Examiner
Art Unit 2178
02/16/06